

GenCore version 4.5
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OM protein - protein search, using sw model

Run on: June 18, 2001, 15:32:45 ; Search time 46.42 Seconds
(without alignments)
351.171 Million cell updates/sec

Title: US-09-653-755a-5

Perfect score: 1121

Sequence: 1 ENVLQSPALMSAPGEKVT.....EATHTKTSPIYKSFNRNRC 214

Scoring table:

BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 219241 seqs, 76174552 residues

Total number of hits satisfying chosen parameters: 219241

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

1: p1r1:*
2: p1r2:*
3: p1r3:*
4: p1r4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | DB | ID | Description |
|------------|-------|-------------|--------|----|--------|--------------------|
| 1 | 988.5 | 88.2 | 235 | 2 | S25058 | Ig kappa chain - m |
| 2 | 890 | 79.4 | 218 | 2 | JC5810 | monoclonal antibod |
| 3 | 886 | 79.0 | 220 | 2 | A31790 | Ig kappa chain V r |
| 4 | 883 | 78.8 | 218 | 2 | S68241 | Ig kappa chain V r |
| 5 | 877 | 78.2 | 234 | 2 | S14237 | Ig kappa chain pre |
| 6 | 876.5 | 78.2 | 225 | 2 | S37484 | Ig kappa chain - m |
| 7 | 869.5 | 77.6 | 219 | 2 | S38865 | Ig kappa chain - m |
| 8 | 869 | 77.5 | 234 | 2 | S01320 | Ig kappa chain pre |
| 9 | 867.5 | 77.4 | 219 | 2 | PC4203 | Ig kappa chain (mo |
| 10 | 861.5 | 76.9 | 219 | 2 | SS2028 | Ig kappa chain - m |
| 11 | 857 | 76.4 | 210 | 2 | A56169 | Ig kappa chain V r |
| 12 | 852 | 76.0 | 214 | 2 | S68212 | Ig kappa chain (Ma |
| 13 | 851.5 | 76.0 | 225 | 2 | JL0029 | Ig kappa chain pre |
| 14 | 846.5 | 75.5 | 219 | 2 | S16112 | Ig kappa chain V r |
| 15 | 845.5 | 75.4 | 217 | 2 | S42712 | Ig kappa chain - m |
| 16 | 774 | 69.0 | 240 | 2 | S06084 | Ig kappa chain pre |
| 17 | 700.5 | 62.5 | 215 | 2 | JE0244 | Ig kappa chain NIG |
| 18 | 693.5 | 61.9 | 215 | 2 | JE0242 | Ig kappa chain NIG |
| 19 | 669.5 | 59.7 | 197 | 2 | S29593 | Ig kappa chain (WM |
| 20 | 663.5 | 59.2 | 215 | 2 | JE0243 | Ig kappa chain NIG |
| 21 | 663 | 59.1 | 230 | 2 | S33161 | Ig kappa chain - s |
| 22 | 654.5 | 58.4 | 215 | 2 | A23746 | Ig kappa chain V-I |
| 23 | 593 | 52.9 | 216 | 2 | JE0241 | Ig kappa chain Am3 |
| 24 | 577.5 | 51.5 | 229 | 2 | PT0219 | Ig kappa chain V-C |
| 25 | 568.5 | 50.7 | 229 | 2 | A20969 | Ig kappa chain pre |
| 26 | 567 | 50.6 | 126 | 2 | I54782 | gene Pvt-1a/Ig-Ck |
| 27 | 562 | 50.1 | 106 | 1 | K1MS | Ig kappa chain C r |
| 28 | 512.5 | 45.7 | 130 | 2 | B32456 | Ig kappa chain pre |
| 29 | 501.5 | 44.7 | 238 | 2 | A49633 | Ig lambda-like cha |

| | | | | | | |
|----|-------|------|-----|---|--------|--------------------|
| 30 | 497.5 | 44.4 | 140 | 2 | PL0013 | Ig kappa chain pre |
| 31 | 493 | 44.0 | 217 | 2 | JE0246 | Ig lambda chain NI |
| 32 | 484.5 | 43.2 | 109 | 2 | PT0405 | Ig light chain V r |
| 33 | 484.5 | 43.2 | 130 | 2 | A32513 | Ig kappa chain pre |
| 34 | 484 | 43.2 | 106 | 1 | K1RTA | Ig kappa chain C r |
| 35 | 479 | 42.7 | 233 | 2 | S29577 | Ig light chain - r |
| 36 | 475.5 | 42.4 | 109 | 2 | PT0404 | Ig light chain V r |
| 37 | 471.5 | 42.1 | 228 | 2 | S29575 | Ig light chain - r |
| 38 | 469.5 | 41.9 | 130 | 2 | S04573 | Ig kappa chain pre |
| 39 | 469 | 41.8 | 106 | 1 | K1RTB | Ig kappa chain C r |
| 40 | 468.5 | 41.8 | 113 | 2 | S03410 | Ig kappa chain pre |
| 41 | 466 | 41.6 | 213 | 2 | S21066 | Ig lambda chain V |
| 42 | 466 | 41.6 | 236 | 2 | S25746 | Ig lambda chain - |
| 43 | 464.5 | 41.4 | 108 | 2 | PL0278 | Ig kappa chain V r |
| 44 | 464.5 | 41.4 | 233 | 2 | S25744 | Ig lambda chain - |
| 45 | 463.5 | 41.3 | 216 | 2 | S29258 | Ig lambda chain V |

ALIGNMENTS

```
RESULT 1
S25058
Ig kappa chain - mouse
C:Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 21-Jan-2000
C:Accession: S25058
R:Fischer, R.; Voss, A.; Miersbach, M.; Munkler, W.; Hirsch, R.J.; Kreuzaler, F.
submitted to the EMBL Data Library, July 1992
A:Description: Production of a Tobacco mosaic virus (TMV) inactivating neotop specific
A:Reference number: S25057
A:Accession: S25058
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-235 <F1S>
A:Cross-references: EMBL:X67211; NID:954828; PIDN:CAA47650.1; PID:954829
F:38-111/Domain: immunoglobulin V region: immunoglobulin homology
F:38-111/Domain: immunoglobulin homology <IM>

Query Match      88.2%; Score 988.5; DB 2; Length 235;
Best Local Similarity 90.1%; Pred. No. 2.5e-55;
Matches 192; Conservative 6; Mismatches 12; Indels 3; Gaps 2;

OY 3 VLQSPALMSAPGEKVTMTGRASSVSSYLHWYRQKSGASPKIMIVSTNLSGVPAR 62
    |||||
Db 25 VLQSPALMSAPGEKVTMTGRASSVSSK--MQWYQKSGTSPKRWIDTSLASGVGR 82
OY 63 FSGSGSGTSTLTSSVAEDAAATYYCOOYSGY-RTFGGTRLEIKRADAPTVSIFPPS 121
    |||||
Db 83 FSGSGSGTSTLTSSVAEDAAATYYCOOWSNPLTFAGTRLEIKRADAPTVSIFPPS 142
OY 122 SEOLTSGASVYCFLNFPYRDINVKMKIDGSEKONGVNSMTDSDSTYSMSSTLT 181
    |||||
Db 143 SEOLTSGASVYCFLNFPYRDINVKMKIDGSEKONGVNSMTDSDSTYSMSSTLT 202
OY 182 TKDEYERHNSYTCEATHTKTSPIYKSFNRNRC 214
    |||||
Db 203 TKDEYERHNSYTCEATHTKTSPIYKSFNRNRC 235

RESULT 2
JC5810
monoclonal antibody 13-1 light chain - mouse
C:Species: Mus musculus (house mouse)
C:Date: 04-Feb-1998 #sequence_revision 13-Mar-1998 #text_change 21-Jan-2000
C:Accession: JC5810
R:Akashi, S.; Kato, K.; Torizawa, T.; Dotmae, N.; Yamaguchi, H.; Kamachi, M.; Harada,
Biochem. Biophys. Res. Commun. 240, 566-572, 1997
A:Title: Structural characterization of mouse monoclonal antibody 13-1 against a porp
A:Reference number: JC5810; MUID:98063277
A:Accession: JC5810
A:Molecule type: protein
```

A:Residues: 1-218 <AKA>
 C:Comment: This catalytic antibody has peroxidase oxidase. It is directed against a porph
 C:Superfamily: Immunoglobulin V region; immunoglobulin homology
 F:16-94/Domain: immunoglobulin homology <IMM>

Query Match 79.4%; Score 890; DB 2; Length 218;
 Best Local Similarity 80.1%; Pred. No. 3.4e-49;
 Matches 173; Conservative 13; Mismatches 26; Indels 4; Gaps 2;

QY 3 VLTQSPAIMSASPGKVTMTCRASSVSSS---YLHWYRQKSGASPKLMTYSTNLASGV 59
 DB 3 VLTQSPAIMSASPGKVTMTCRASSVSSS---YLHWYRQKSGASPKLMTYSTNLASGV 62
 QY 60 PARFSGSGSGSTSLTSSVEAEDAAATYYCOQYSGY-RTFGGKTLEIKRADAAPTYSIF 118
 DB 63 PARFSGSGSGSTSLTSSVEAEDAAATYYCOQYSGY-RTFGGKTLEIKRADAAPTYSIF 122
 QY 119 PPSSEQLTSGASVYCFLNFPKIDINVKWKIDGSEKQNGVLSWTDQSDKSTYSMSST 178
 DB 123 PPSSEQLTSGASVYCFLNFPKIDINVKWKIDGSEKQNGVLSWTDQSDKSTYSMSST 182
 QY 179 LTLTKDEYERHNSYTCEATHTKSTSPVKSFNREC 214
 DB 183 LTLTKDEYERHNSYTCEATHTKSTSPVKSFNREC 218

RESULT 3
 A31790
 Ig kappa chain V region (17/9) - mouse
 C:Species: Mus musculus (house mouse)
 C:Date: 31-Mar-1990 #sequence_revision 31-Mar-1990 #text_change 21-Jan-2000
 C:Accession: A31790
 R:Schulze-Gahmen, U.; Rini, J.M.; Arevalo, J.; Stura, E.A.; Kenten, J.H.; Wilson, I.A.
 J. Biol. Chem. 263, 17100-17105, 1988
 A:Title: Preliminary crystallographic data, primary sequence, and binding data for an ar
 A:Reference number: A92686; MUID:89034213
 A:Accession: A31790
 A:Molecule type: mRNA
 A:Residues: 1-220 <SCH>
 A:Cross-references: GB:M23626; GB:J04061; NID:9533234; PIDN:AAA9162.1; PID:9533235
 C:Superfamily: Immunoglobulin V region; immunoglobulin homology
 C:Keywords: heterotrimer; immunoglobulin
 F:16-96/Domain: immunoglobulin homology <IMM>

Query Match 79.0%; Score 886; DB 2; Length 220;
 Best Local Similarity 78.4%; Pred. No. 6.1e-49;
 Matches 171; Conservative 17; Mismatches 24; Indels 6; Gaps 2;

QY 3 VLTQSPAIMSASPGKVTMTCRASSVSSS---YLHWYRQKSGASPKLMTYSTNLAS 57
 DB 3 VLTQSPAIMSASPGKVTMTCRASSVSSS---YLHWYRQKSGASPKLMTYSTNLAS 62
 QY 58 GVPARFSGSGSTSLTSSVEAEDAAATYYCO-QYSGYRTFGGKTLEIKRADAAPTYS 116
 DB 63 GVPARFSGSGSTSLTSSVEAEDAAATYYCO-QYSGYRTFGGKTLEIKRADAAPTYS 122
 QY 117 IPPPSSEQLTSGASVYCFLNFPKIDINVKWKIDGSEKQNGVLSWTDQSDKSTYSMS 176
 DB 123 IPPPSSEQLTSGASVYCFLNFPKIDINVKWKIDGSEKQNGVLSWTDQSDKSTYSMS 182
 QY 177 LTLTKDEYERHNSYTCEATHTKSTSPVKSFNREC 214
 DB 183 LTLTKDEYERHNSYTCEATHTKSTSPVKSFNREC 220

RESULT 4
 S68241
 Ig kappa chain V region (Mab13-1) - mouse (fragment)
 N:Alternate names: immunoglobulin light chain
 C:Species: Mus musculus (house mouse)
 C:Date: 24-Aug-1996 #sequence_revision 13-Mar-1997 #text_change 20-Jun-2000

C:Accession: S68241; S68214
 R:Takegi, M.; Kohda, K.; Hamuro, T.; Harada, A.; Yamaguchi, H.; Kamachi, M.; Imanaka,
 submitted to the EMBL Data Library, March 1994
 A:Description: Specific peroxidase activity by formation of an antibody L-chain-porph
 A:Reference number: S68241

A:Accession: S68241
 A:Molecule type: mRNA
 A:Residues: 1-218 <YAK>
 A:Cross-references: EMBL:D29670; NID:9473962; PIDN:BA06141.1; PID:9473963
 R:Takegi, M.; Kohda, K.; Hamuro, T.; Harada, A.; Yamaguchi, H.; Kamachi, M.; Imanaka,
 FEBS Lett. 375, 273-276, 1995
 A:Title: Thermostable peroxidase activity with a recombinant antibody L chain-porphyr
 A:Reference number: S68211; MUID:96085223

A:Accession: S68214
 A:Molecule type: mRNA
 A:Residues: 'N', 3-212 <YAK>
 A:Cross-references: EMBL:D29670
 C:Superfamily: Immunoglobulin V region; immunoglobulin homology
 C:Keywords: immunoglobulin

Query Match 78.8%; Score 883; DB 2; Length 218;
 Best Local Similarity 78.9%; Pred. No. 9.2e-49;
 Matches 172; Conservative 14; Mismatches 28; Indels 4; Gaps 2;

QY 1 ENVLTQSPAIMSASPGKVTMTCRASSVSSS---YLHWYRQKSGASPKLMTYSTNLAS 57
 DB 1 ENVLTQSPAIMSASPGKVTMTCRASSVSSS---YLHWYRQKSGASPKLMTYSTNLAS 60
 QY 58 GVPARFSGSGSTSLTSSVEAEDAAATYYCOQYSGY-RTFGGKTLEIKRADAAPTYS 116
 DB 61 GVPARFSGSGSTSLTSSVEAEDAAATYYCOQYSGY-RTFGGKTLEIKRADAAPTYS 120
 QY 117 IPPPSSEQLTSGASVYCFLNFPKIDINVKWKIDGSEKQNGVLSWTDQSDKSTYSMS 176
 DB 121 IPPPSSEQLTSGASVYCFLNFPKIDINVKWKIDGSEKQNGVLSWTDQSDKSTYSMS 180
 QY 177 LTLTKDEYERHNSYTCEATHTKSTSPVKSFNREC 214
 DB 181 LTLTKDEYERHNSYTCEATHTKSTSPVKSFNREC 218

RESULT 5
 S14237
 Ig kappa chain precursor (15C5) - mouse
 C:Species: Mus musculus (house mouse)
 C:Date: 25-Feb-1994 #sequence_revision 10-Nov-1995 #text_change 21-Jan-2000
 C:Accession: S14237
 R:Vandamme, A.M.; Bulens, F.; Bernat, H.; Nelles, L.; Lijnen, R.H.; Collen, D.
 Eur. J. Biochem. 192, 767-775, 1990
 A:Title: Construction and characterization of a recombinant murine monoclonal antibod
 A:Reference number: S14236; MUID:91006173
 A:Accession: S14237
 A:Molecule type: mRNA
 A:Residues: 1-234 <VAN>
 A:Cross-references: EMBL:X56394; NID:951622; PIDN:CAA3805.1; PID:951623
 C:Superfamily: Immunoglobulin V region; immunoglobulin homology
 C:Keywords: heterotrimer; immunoglobulin
 F:36-110/Domain: immunoglobulin homology <IMM>

Query Match 78.2%; Score 877; DB 2; Length 234;
 Best Local Similarity 79.7%; Pred. No. 2.3e-48;
 Matches 169; Conservative 15; Mismatches 26; Indels 2; Gaps 2;

QY 4 LVTQSPAIMSASPGKVTMTCRASSVSSS---YLHWYRQKSGASPKLMTYSTNLASGVPARF 63
 DB 24 LVTQSPAIMSASPGKVTMTCRASSVSSS---YLHWYRQKSGASPKLMTYSTNLASGVPARF 82
 QY 64 SGGSGSTSLTSSVEAEDAAATYYCOQYSGY-RTFGGKTLEIKRADAAPTYSIFPPSS 122
 DB 83 SGGSGSTSLTSSVEAEDAAATYYCOQYSGY-RTFGGKTLEIKRADAAPTYSIFPPSS 142

C:Comment: This protein is specific for human plasma apolipoprotein A-I of high-density
C:Superfamily: Immunoglobulin V region; immunoglobulin homology
F:1-112/Domain: V region #status predicted <VRG>
F:113-219/Domain: C region #status predicted <CRG>

Query Match 77.4%; Score 867.5; DB 2; Length 219;
Best Local Similarity 77.4%; Pred. No. 8.6e-48;
Matches 168; Conservative 16; Mismatches 28; Indels 5; Gaps 2;

QY 3 VLTQSPALMSASPGKEVTMTCRASSV---SSSYLHWYRKGSGASPKLMTYSTNLASG 58
DB 3 LMTQTPSLSLVSLGQDASISCRSSQSTVHTNGMTYLEWYLQKPGQSKLLIYVSNRFSG 62
QY 59 VPARFSGSGSGTSTSLTSSVEAEDATYYCOQYSGY-RTFGGKTKLEIKRADAPTYSI 117
DB 63 VPRFSGSGSGTDFTLTKISVREAEDELGYVYCFPGSHVPRFGGKTKLEIKRADAPTYSI 122
QY 118 FPPSSQQLTSGGASVYCFLNFPYPRDINVKWKIDGSEKONGVLSNWTDDSKDSTYSMS 177
DB 123 FPPSSQQLTSGGASVYCFLNFPYPRDINVKWKIDGSEKONGVLSNWTDDSKDSTYSMS 182
QY 178 TLTLTKDEYERHNSYTCEATHTKSTSPYKSFNRNEC 214
DB 183 TLTLTKDEYERHNSYTCEATHTKSTSPYKSFNRNEC 219

RESULT 10

IG kappa chain - mouse
C:Species: Mus musculus (house mouse)
C:Date: 07-May-1995 #sequence_revision 21-Jul-1995 #text_change 21-Jan-2000
C:Accession: S52028
R:Van Engelen, F.; Schouten, A.; Molthoff, J.W.; Roostien, J.; Dirkse, W.G.; Schots, A.;
submitted to the EMBL Data Library, August 1994
A:Description: Coordinate expression of antibody subunit genes yields high levels of fun
A:Reference number: S52028
A:Accession: S52028
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-219 <VAN>
A:Cross-references: EMBL:J35138; NID:g522336; PIDN:AAA67525.1; PID:g522337
C:Superfamily: Immunoglobulin V region; immunoglobulin homology
C:Keywords: heterotetramer; immunoglobulin
F:16-95/Domain: immunoglobulin homology <IMM>

Query Match 76.9%; Score 861.5; DB 2; Length 219;
Best Local Similarity 77.4%; Pred. No. 2e-47;
Matches 168; Conservative 14; Mismatches 30; Indels 5; Gaps 2;

QY 3 VLTQSPALMSASPGKEVTMTCRASSV---SSSYLHWYRKGSGASPKLMTYSTNLASG 58
DB 3 VMTQSPSLPVLISLGDASISCRSSQSTVHSNGMTYLEWYLQKPGQSKLLIYVSNRFSG 62
QY 59 VPARFSGSGSGTSTSLTSSVEAEDATYYCOQYSGY-RTFGGKTKLEIKRADAPTYSI 117
DB 63 VPRFSGSGSGTDFTLTKISVREAEDELGYVYCFPGSHVPRFGGKTKLEIKRADAPTYSI 122
QY 118 FPPSSQQLTSGGASVYCFLNFPYPRDINVKWKIDGSEKONGVLSNWTDDSKDSTYSMS 177
DB 123 FPPSSQQLTSGGASVYCFLNFPYPRDINVKWKIDGSEKONGVLSNWTDDSKDSTYSMS 182
QY 178 TLTLTKDEYERHNSYTCEATHTKSTSPYKSFNRNEC 214
DB 183 TLTLTKDEYERHNSYTCEATHTKSTSPYKSFNRNEC 219

RESULT 11

IG kappa chain V region (clone 23.2) - mouse (fragment)
C:Species: Mus musculus (house mouse)
C:Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change 11-Jan-2000

C:Accession: A56169
R:Montardini, C.; Kleber-Emmons, T.; Vonfeldt, J.M.; O'Walley, B.; Rosenbaum, H.; God
J. Biol. Chem. 270, 6628-6638, 1995
A:Title: Recombinant antibodies in bioactive peptide design.
A:Reference number: A56169; MUID:95204454

A:Accession: A56169
A:Status: preliminary; not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-210 <MON>
C:Superfamily: Immunoglobulin V region; immunoglobulin homology
C:Keywords: heterotetramer; immunoglobulin

Query Match 76.4%; Score 857; DB 2; Length 210;
Best Local Similarity 80.3%; Pred. No. 3.8e-47;
Matches 167; Conservative 13; Mismatches 24; Indels 4; Gaps 2;

QY 3 VLTQSPALMSASPGKEVTMTCRASSVSS---SYLHWYRKGSGASPKLMTYSTNLASG 59
DB 3 VLTQSPALSLVSLGQDASISCRASKSVSSGYSYMHYQKPGQPKVLIYLSNLSGV 62
QY 60 PARFSGSGSGTSTSLTSSVEAEDATYYCOQYSGYR-TPGGKTKLEIKRADAPTYSI 118
DB 63 PPRFSGSGSGTDFTLNIHPVEEEDATYYCOHSRELPTFGGKTKLEIKRADAPTYSI 122
QY 119 PPSSEQLTSGGASVYCFLNFPYPRDINVKWKIDGSEKONGVLSNWTDDSKDSTYSMS 178
DB 123 PPSSEQLTSGGASVYCFLNFPYPRDINVKWKIDGSEKONGVLSNWTDDSKDSTYSMS 182
QY 179 TLTLTKDEYERHNSYTCEATHTKSTSPY 206
DB 183 TLTLTKDEYERHNSYTCEATHTKSTSPY 210

RESULT 12

IG kappa chain (Mab03-1) - mouse (fragment)
S68212
C:Species: Mus musculus (house mouse)
C:Date: 29-Jul-1997 #sequence_revision 29-Aug-1997 #text_change 11-Jan-2000
C:Accession: S68212
R:Rakagi, M.; Kohda, K.; Hamuro, T.; Harada, A.; Yamaguchi, H.; Kamachi, M.; Imanaka,
FEBS Lett. 375, 273-276, 1995
A:Title: Thermostable peroxidase activity with a recombinant antibody L chain-porphyr
A:Reference number: S68211; MUID:9608523
A:Accession: S68212
A:Status: preliminary; nucleic acid sequence not shown
A:Molecule type: mRNA
A:Residues: 1-214 <YAK>
A:Cross-references: EMBL:D29668
C:Superfamily: Immunoglobulin V region; immunoglobulin homology

Query Match 76.0%; Score 852; DB 2; Length 214;
Best Local Similarity 78.3%; Pred. No. 7.9e-47;
Matches 166; Conservative 18; Mismatches 22; Indels 6; Gaps 2;

QY 3 VLTQSPALMSASPGKEVTMTCRASSVSSS---YLHWYRKGSGASPKLMTYSTNLAS 57
DB 3 VMTQSPSLAMSGLVMTSCSSQSLNSRNKNLKYAQKPGQSKLLIYFASTRS 62
QY 58 GVPARFSGSGSGTSTSLTSSVEAEDATYYCOQ-YSGYRTFGGKTKLEIKRADAPTYS 116
DB 63 GVDPRFISGSGTDFTLTSTVOAEDLADYFCQHSSTFYTFGGGKTKLEIKRADAPTYS 122
QY 117 IPPSSQQLTSGGASVYCFLNFPYPRDINVKWKIDGSEKONGVLSNWTDDSKDSTYSMS 176
DB 123 IPPSSQQLTSGGASVYCFLNFPYPRDINVKWKIDGSEKONGVLSNWTDDSKDSTYSMS 182
QY 177 STLTLTKDEYERHNSYTCEATHTKSTSPYKVS 208
DB 183 STLTLTKDEYERHNSYTCEATHTKSTSPYKVS 214

